

Abstract

We have successfully sequenced and cloned the gene expressing the Major Surface Protein 5 (MSP5) of *A. phagocytophilum*. The recombinant MSP5 (rMSP5) protein has been tested using sera from humans and dogs infected with *A. phagocytophilum*. The polypeptide has been found to be immunogenic and useful as a diagnostic test antigen. The polypeptide antigen of the subject invention can provide the basis of a diagnostic assay that would allow the rapid, in-house, laboratory diagnosis of infection with *A. phagocytophilum* using a sample (e.g., serum, plasma, or whole blood) from an infected human or animal. Additionally, the subject invention provides methods of detecting the presence of *A. phagocytophilum* in biological or environmental samples utilizing antibodies provided by the subject invention. Furthermore, the use of the single antigen in the diagnosis of this important disease offers many advantages including enhanced test specificity, ease of testing and consistency of results using synthetically produced test antigens instead of cultured, whole organisms.